DOCUMENT RESUME

ED 172 558 **FL 010 376**

AUTHOR	Hoffman, Gerard
TITLE	Bilingual Education: A Cognitive Approach to Learning. CUNYForum, No. 3.
INSTITUTION	City Univ. of New York, N.Y. Graduate School and Univ. Center. Program in Linguistics.
PUB DATE	77
NOTE	16p.; Paper presented at the Annual Queens College Conference on Bilingualism and Second Language Learning, (2nd, November 10, 1976)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Bilingual Education; Child Language; *Cognitive Development; *Communicative Competence (Languages); Elementary Education; *Integrated Curriculum; *Language Development; Learning Theories; Linguistic Theory; *Sociolinguistics

ABSTRACT

The goals of bilingual education and its relationship to education are examined, and a model for bilingual education is proposed. A definition of bilingual education is emerging that permits the child to choose the mode of communication with which he is most comfortable. Cognitive psychology and its emphasis upon the child's active interactions with his environment is a strong argument for supporting mother-tongue instruction. Bilingual education designed as an integrated curriculum that is child-centered rather than teacher-centered is advocated. This model is designed to maximize cognitive growth and encourage symbolic activities through interpersonal interactions. All children are encouraged to manipulate their environment and explore their developing conceptualizations. The language that the child knows best is the medium for exploring and working through ideas. The learning of English is most effectively accomplished when children have an opportunity to use it in functional contexts with English-speaking peers. Integrating the curriculum will permit students to become familiar with the interrelationship between the parts of the curriculum and will prepare them to use all forms of language so that they can bring ideas and facts together without letting it interfere with the comprehension of concepts. This means that they will develop a communicative competence along with a cognitive competence. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY Gerald Hoffman

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED172558

BILINGUAL EDUCATION: A COGNITIVE APPROACH TO LEARNING

Gerard Hoffman
Bilingual Assistance Center
New York

Many of us who have been reading, teaching, preparing teachers, or doing research in the fields of bilingualism and bilingual education may have been struck by the same problem, namely the lack of standardization in the definition of terms. Lack of standardization has been among the most frequent explanations for the inconsistency of research results over the last fifty years (Peale and Lambert, 1962; Engle, 1975; Cummins, 1976). My own concern about this problem has arisen from attempts to secure meaningful field placements for students taking my course in the theory of bilingual education and from my attempts to design research to examine the effectiveness of mother-tongue instruction. Nowhere could I discover any consistency as to who was defined as bilingual, what a bilingual education program was, or what constituted the needs of the community. My first reaction was that this was appropriate, since the bilingual population in New York City is diverse. It is composed of a variety of language groups, and individuals within these groups possess varying degrees of dominance. Furthermore, the cultural aspirations differ even among sub-groups of ethnic groups in the city (cf. Hoffman 1971). Nevertheless something still bothered me as I examined the state of bilingual education, and talked with teachers, administrators, students, and others in the community. This paper is a result of my attempt to discover why I was uneasy about bilingual

FL010376

education as I was seeing it in New York City during the past several years.

The paper wil examine the question; "What is bilingual education?" It will examine the goals of bilingual education and its relationship to education generally. I will suggest a model of education which does not place bilingual education in a separate channel removed from the goals and processes necessary for the education of all children. I will argue that bilingual education, which is ill-defined and lacks direction, is not the panacea we have all been waiting for, whereas mother-tongue instruction is the logical choice in a child-centered, cognitively oriented, participatory educational system.

The educational process must first and foremost meet the needs of the students for whom it is intended. The needs of children are many and varied and range from psycho-emotional needs of the individual to sociocultural needs of the group to which the student belongs. Nevertheless, I believe that the one need basic to all others is the need for the human child to build upon and expand the mental structures he has been developing all his life. This is seen in the creative process of language learning discussed by Chomsky and others, as well as in the developmental process described by Piaget, Bruner, and other developmental psychologists. At this basic level, bilingual education in no way differs from good monolingual education. This idea is not new; both John (1970) and MacNamara (1970) have already expressed essentially this same thesis at the 21st Linguistics Roundtable a number of years ago in Georgetown.

If the basic goal of education, bilingual or otherwise, is to encourage and strengthen the child's growing intellect, what happens to the special psycho-social needs of the bilingual child? A good educational program does recognize these needs and in fact can more readily allow the child the creative freedom necessary for cognitive growth by attending to these needs. In order to more fully understand this, it will be necessary to examine the role played by language in the classroom, as well as the role played by language in the development of intellect.

Language serves the function of communication; but when placed in a social context, communication is more than a structured tool for the transmission of information. As Gumperz has said, language in a social context signals emotions, group identity, values, strategies of interpersonal relations, and power relationships between individuals as well as between groups (Gumperz, 1964). Sociolinguistic theory has begun to account for why there is so much language variation in normal day-to-day speech, including dialect differences, bilingualism, code switching, linguistic interference and even the absence of speech among some children in classroom situations.

Rather than explain away these phenomena in terms of such things as lazy speech habits (a favorite of English teachers), or linguistic deprivation (a theory made popular by some educational psychologists and the basis for such language arts programs as DISTAR), the theory makes a distinction between linguistic competence and communicative competence.

Whereas the former represents the internalized rules by which an individual can form grammatical sentences, the latter represents internalized rules for language usage. These usage rules help an individual determine when to speak, to whom, using which code or style of language for what purpose. The social situation is seen as a continuously interactive process in which the participants influence each others' responses. In sharp contrast to Bereiter and Englemann (1966) and other educational pyschologists who view language behavior as a simple stimulus-and-response activity, Hymes (1972), Gumperz (1964), Cicourel (1974), and others see language behavior as a complex cognitive process in which the speaker must integrate knowledge about a variety of linguistic structures, knowledge about social sturucture, and knowledge about his own feelings and emotions. As an example let us examine a common style of communicative behavior with which I am sure most of us are very familiar. It is considered improper to appear inattentive during informal speech events in middle-class cultures and perhaps others as well. In fact, the facial expresssions and ritualized verbalizations such as "uh huh" and "I see" serve as signlas for the speaker to continue. Some adults and students alike are able to effectively tune out of a situation that is unimportant or irrelevant to them while appearing to participate in the interaction. This could not occur without the individual possessing a knowledge of the rules of social behavior and paralinguistic structures appropriate to that situation. When such usage rules are not shared by the interlocutors the result is misunderstanding at the least, and complete breakdown of communication at the other extreme.

Language functions in the classroom in the same way that it does outside the classroom. We sometimes lose sight of the fact that social interaction in the classroom operates under the same rules as other social interactions, and, more important, that human learning is a function of human interactions and that this necessitates the child's involvement in the learning process. This has been stated most effectively by Ilse Mattick and I would like to quote her rather than restate it in my own words.

> I assume that there is an interdependence between cognitive and affective development and that the growth of intellectual functioning, such as the acquisition and organization of information, the ability to solve problems and to engage in symbolic representation cannot be divorced from interpersonal and intrapersonal growth processes. From this it follows that the ability to relate to others goes hand in hand with talking to others and that the development of self-esteem, self-assertion, self-confidence and self-control are inextricably intertwined with growth in cognitive functioning and thus with competency in communication. (1972, p. 108)

What I have been saying is quite clearly most relevant to bilingual

education. However, those of us who are working to implement the best possible educational settings for our children are often confronted with an overwhelming administrative task as we attempt to create a structure within which an effective program will work. This happens because there is a tendency to emphasize the structure and forget about the dynamics of classroom interaction. Nevertheless, sociolinguistics teaches us that we can never lose sight of individual and small-group interactions, nor can we ignore the necessities of the individuals with whom we are trying to communicate. Again Ilse Mattick asks us to examine whether or not our "verbal interaction (with children is) related to the . . . child's real world," or are learning tasks imposed which are "quite remote from the children's priorities?"(p.115)

Bilingual education and mother-tongue instruction permit the child to develop a communicative competency more fully in both languages, because the context of his verbalizations is both meaningful and relevant to him. However, the question of bilingual education in our schools goes far beyond the question of using two languages in the classroom. It makes us question whether we view the child as a passive receptor of pre-structured information, or whether we see child development and intellectual growth as an active partnership between the child and his environment of which the school is just a part, although a very important one.

Thus what is emerging is a definition of bilingual education which permits the child to choose the mode of communication with which he is

most comfortable, Language plays a unique role in the classroom in that it operates at many levels. At one level it is used to transmit instructions: "Open your books at page 22." At another level it may be used to transmit information: "The thirty-third president of the U.S. was . . ."; at another level, group identity: "Yo soy Puertoricano." Similarly, other social functions, such as power relationships and values, are signaled by language usage. At yet another level language is utilized by the child to interact with the world around him. The importance of this latter function of language in the classroom increases as he develops out of concrete operations into formal operations, to use Piaget's terms. Nevertheless, even at the younger pre-operational stages language is used by the child in an emerging symbolic process to build toward his future abstract use of language in formal operations.

In the field of cognitive psychology there is theoretical disagreement as to the extent of the relationship between language and thought. Piaget takes the extreme position that language and cognitive development are related but separate processes. I agree with Cummins (1976) that even this conservative position with respect to the relationship between language and thought is not incompatible with the idea that bilingualism is positively related to cognitive functioning.

The child begins to smybolize early in life. According to Furth (1970), these symbols are internalized images of the child's imitation of the external environment, and include play, dreams, art, music, and social customs as well as language. A study by Ianco-Worrall (1972) has found that 4-to-6-year-old bilingual children are superior to matched

unilingual children in matching words on their semantic properties rather than their acoustic properties. This suggests that the bilinguals have internalized the semantic aspect of language sooner than the unilinguals. Semantic knowledge (e.g., house and home) necessitates a higher symbolic level than acoustic knowledge (e.g., house and mouse) which is still very concrete, directly related to ongoing external stimuli.

A number of important research studies support the position that children who receive instruction in their weaker language are placed at a definite disadvantage when compared to children receiving mother-tongue instruction (Macnamara, 1966; Modiano, 1973; Kellaghan and Macnamara, 1970; Collison, 1974). Kellaghan and Macnamara go beyond documentation, and point to some of the factors which hinder the child who receives instruction in his weaker language. The bilingual child who can comprehend all the components of a problem presented to him in his weaker (or second) language still has trouble integrating those components into a meaningful relationship. He reads the problem more slowly. He responds more slowly, and he is less accurate and felxible in his responses. This is a serious problem for learning as well as for testing since integrating, hypothesizing, evaluating, and the like are essential activities in the development of a thoughtful, creative individual. Merely memorizing the component parts of a problem, its answer, or even the rules for solving it will not help the child's intellectual development. Memorization is the only way a child can cope with the demands of school when he is forced to learn in his weaker

language. This is not education, it is training.

Collison's (1974) study of Ghanaian schoolchildren examines concept formation in a second language. Using Vygotsky's levels of concept development as one dependent variable, Collison found that Ghanaian children used higher-level concepts to discuss the curriculum material in the vernacular than when required to do so in English. He states that the results are probably not due to poorer knowledge of English and concludes that when using their weaker language "children may mimic adult concepts without any appreciable contribution toward their own conceptual growth" (p. 455). These results are completely compatible with and supportive of Piaget's developmental theory, which postulates the building of higher and higher conceptual levels through the internalization of knowledge by direct interaction with the environment.

Cognitive psychology and its emphasis upon the child's active interactions with his environment is the strongest argument I know of for supporting mother-tongue instruction. If the child is encouraged to utilize his mother tongue in order to think and solve problems, he will develop a deeper understanding of concepts than if he must struggle through a medium he understands less well. In fact, under the latter circumstances he is more than likely not to struggle at all, but to turn off completely to school.

According to Piaget, activity is at the root of intelligence. Children's verbalizations aid in the integration and evaluation of concepts that are just becoming internalized. Socialization and peer interaction play a crucial role in this process, as the child learns

to trust the perceptions of persons other than himself and learns to compare his own hypotheses with those of others.

Language and thought are therefore separate but interrelated human abilities. A great deal of conceptual learning does take place without language through the manipulation of objects, and by observation of the environment. Cause-and-effect relationships, classification schema, and attribute similarities are among the concepts young children learn by interacting with their environment. However, it is through language that children develop and express higher levels of conceptualization. Referring to Bloom's taxonomy, knowledge and application are readily learned through observation. The higher levels of analysis, synthesis, and evaluation need the added tool of language for their development. Language facilitates problem-solving and hypothesis-testing in two ways. The lexicon serves as a convenient coding system which allows the individual to store and retrieve a far greater amount of information than would be possible without it. Using syntax, the individual can manipulate the coded bits of information with respect to time and space and in relation to other bits of information.

Language is necessary for higher levels of conceptualization. It permits an examination of the component parts of systems and examination of their interrelations. Using language, one can make generalizations and develop the principles necessary for human development. Language also provides the freedom necessary to evaluate these principles by hypothesizing and discussing one's experiences with others.

Lansdown, Blackwood, and Brandwein (1971) have created a science curriculum based upon this reality called Teaching Elementary Science Through Investigation and Colloquium. They believe that children must be allowed to examine the physical world first, make hypotheses, and then discuss their hypotheses, in order to discover the principles of science, rather than be taught facts, which are quickly forgotten. Language provides the tool for manipulating concepts, just as the hands and the eyes are the tools for manipulating concrete objects.

It should be clear that all children learn best when they are given the opportunity to use language to bring together their pre-verbal conceptualizations and when they are given the opportunity to test hypotheses about the nature of the universe through manipulation and verbalization. This issue becomes critical when we are discussing the bilingual child. When English is the medium of instruction, the non-native-English-speaking child is at a double disadvantage. He not only receives less information, instruction, and verbal reward, but he is less able to manipulate his ideas verbally and test them out with peers and teachers.

Progressive educators in America in the 1930s and 40s and advocates of informal education in England today would agree on the importance of integrating the curriculum. They are aware that children do not tend to think in terms of math, reading, science, social studies, art, etc., as discrete areas of knowledge. It is only as they progress through school that children become aware of these divisions and classifications. John Dewey pointed out time and again that in solving

problems children (not to mention adults) draw upon elements from many disciplines; he called this the instrumental use of knowledge and considered it the most psychologically sound way of organizing a curriculum. When the English primary schools use the term "integrated day," one of the things they have in mind is this multidisciplinary approach. If these psychological and philisophical insights are valid for a monolingual curriculum, they are equally appropriate for a bilingual program.

This model for a bilingual program is designed to maximize cognitive growth and encourage symbolic activities through interpersonal interactions. I mentioned before that bilingual education is not a panacea, and it is not, if we merely speak to the child in his mother tongue and do not allow him to develop his competency by actively speaking himself. Interestingly enough, this model is just as valid for the monolingual child, who must also develop communicative competence in the classroom, and in fact permits a much wider range of linguistic and intellectual heterogeneity in the classroom, since the children themselves determine which language variety is to be chosen for a particular learning activity. I am referring, of course, to an integrated curriculum within an open setting, a child-centered rather than a teacher-centered communication situation.

In a bilingual setting designed as an integrated curriculum, all children are encouraged to manipulate their environment and explore their developing conceptualizations. By embedding individual facts and bits of information in a meaningful context, the child not only

begins to grasp systems, but begins to see how systems are related to each other. This knowledge is the basis of concept formation. The language that the child knows best is the medium for exploring and working through ideas, rather than a poorly understood language which only results in poorly conceptualized ideas.

The learning of English is also most effectively accomplished when the children have an opportunity to use it in functional contexts with English-speaking peers. Children need to manipulate and test out hypotheses about language in the same way they must test hypotheses for science, math, and social studies. Integrating the curriculum is therefore a crucial concept in this model, as it will permit students to become familiar with the interrelationship between the parts of the curriculum and prepare them to use all forms of language so that they can bring ideas and facts together without letting it interfere with the comprehension of concepts. They will, in short, develop a communicative competence along with a cognitive competence.

References

Cicourel, Aaron (1974). Cognitive Sociology: Language and Meaning in Social Interaction. New York: The Free Press

Collison, G. O. (1974). "Concept Formation in a Second Language: A Study of Ghanaian School Children." Harvard Educational Review, 44, 441-57.

Cummins, James (1976). "The Influence of Bilingualism on Cognitive Growth." Working Papers in Bilingualism, No. 9, The Ontario Institute for Studies in Education, pp. 1-43.

Engle, Patricia L. (1975). The Use of Vernacular Languages in Education. Arlington, Va.: The Center for Applied Linguistics.

Furth, Hans G. (1970). Piaget for Teachers. Englewood Cliffs, N.J.: Prentice-Hall.

Gumperz, John (1964). "Linguistic and Social Interaction in Two Communities." In J. Gumperz and D. Hymes, eds. "The Ethnography of Communication." American Anthropologist, 66, 137-54.

Hymes, Dell (1972). "Models of Interaction of Language and Social Life." In J. Gumperz and D. Hymes, eds., Directions in Sociolinguistics. New York: Holt, Rinehart and Winston, pp. 35-71.

Hoffman, Gerard (1971). "Life in the Neighborhood: A Factor Analytic Study of Puerto Rican Males," In J. Fishman, R. Cooper, and R. Ma, eds., Bilingualism in the Barrio. Bloomington: Indiana University Publications, pp. 198-232.

Ianco-Worrall, Anita (1972). "Bilingualism and Cognitive Development." Child Development, 43, 1390-1400.

John, Vera (1970). "Cognitive Development in the Bilingual Child." In J. Alatis, ed., Report of the Twenty-First Annual Roundtable Meeting on Linguistics and Language Studies. Washington, D.C.: Georgetown University Press.

Kellaghan, Thomas, and John MacNamara (1967). "Reading in a Second Language." In Marion Jenkinson, eds., Reading Instruction: An International Forum. Newark, Del.: International Reading Assoc., pp. 231-40.

Lansdown, B., P. Blackwood, and P. Brandwein (1971). Teaching Elementary Science through Investigation and Colloquium. New York: Harcourt Brace Jovanovich.

Mattick, Ilse (1972). "The Teacher's Role in Helping Young Children Develop Language Competence." In C. Cazden, ed., Language in Early Childhood Education. Washington, D.C.: National Association for the Education of Young Children, pp. 107-16.

Macnamara, John (1966). Bilingualism and Primary Education. Edinburgh: Edinburgh University Press.

_____(1970). "Bilingualism and Thought." In J. Alatis, ed., Report of the Twenty-First Annual Meeting on Linguistics and Language Studies. Washington, D.C.: Georgetown University Press, pp. 25-40

Modiano, Nancy (1973). Indian Education in the Chiapas Highlands. New York: Holt, Rinehart and Winston.

Peale, E., and W. Lambert (1962). "The Relations of Bilingualism to Intelligence." Psychological Monographs, 76, p. 546.